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The Bison and the Fur Trade

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THE BISON AND THE FUR TRADE

"In a Country of *Plantation*, first looke about, what kinde of Victuall, the Countrie yeelds of it self, to Hand."

Francis Bacon, *Of Plantations*.

WHEN Europeans first penetrated into the country to the north-west of Lake Superior, (afterwards described simply as "the North-West,") they met with great difficulties in transporting supplies. Their superior technical equipment made them in some respects less dependent than the native on local resources; but in regard to food, the traveller in the North-West was as dependent as an Indian on local sources of supply. Durable equipment, such as shelter and weapons, could be transported for long distances, and compact supplies, such as ammunition, could be carried in sufficient quantities for long journeys; but unless food could be replenished from local sources during the journey, exploration or trade could not proceed far from the areas of cultivation, which formed the bases of supply, or from the Great Lakes and other large uninterrupted waterways, which furnished means for the transportation of bulky supplies. This problem was solved by borrowing from the Indian ways of life. Thus European travellers in North America used the Indian canoe, the perfect vessel for the broken streams and lakes which form the lines of communication in the northern and eastern portions of the continent; and in the North-West, they followed the example of the Indians by making the flesh of the American bison the staple article of their diet. The journals of almost every traveller within the range of this animal, from La Verendrye to Grant, contain testimony to the utility of bison products as provisions; and the use of these products exercised a considerable influence on the development of the fur trade in the North-West. It is the purpose of this paper to trace this influence.

The original range of the bison in British territory was a triangular area, of which the base was the international boundary, the perpendicular the Rocky Mountains, and the third side a line running from the Peace River by Great Slave

Lake and Lakes Athabasca and Winnipeg to the Red River district. This range was not separated in any way from the range in the U.S.A. Within these limits, the bison were found in herds of various sizes, from bands of a few individuals to herds of many thousands. It seems certain that these herds were voluntary and to some extent accidental associations of individuals, which moved together only because they were prompted by similar impulses; and, notwithstanding the statements of eyewitnesses who interpreted their observations in terms of human behaviour, they were not composed of harem-groups, and were neither surrounded by specially posted sentries nor, under the leadership of any individual animal. There was a marked seasonal movement of the herds, northward in spring and southward in autumn. The principal factor governing this migration seems to have been the food supply, the summers being spent in the regions of the richest pasture and the winters in the regions of the least snow. Unlike migrating birds, the bison did not entirely abandon the northern part of their range in winter or the southern part in summer, but were found even to their northern limits at all times of the year. Locally, however, the migration left certain areas without bison during either summer or winter, and congregated enormous numbers in certain localities during the migration.

The numbers of the American bison at the time of its greatest abundance would now seem incredible were they not attested by so many reliable witnesses. It is estimated that between fifty and sixty million individuals existed at one time; and the species is supposed to have numbered about four and one-half millions as late as 1870, when its range had been reduced to about one-third of its greatest extent.¹ Herds of thousands of animals were common, and phrases such as "so numerous as to blacken the plains as far as the eye can reach" were frequently and quite accurately used to describe them.

The bison was unable to maintain its numbers or its range in contact with Europeans, who not only destroyed large numbers themselves but also supplied the Indians with the means and with an incentive for still greater destruction. A conspicuous feature of the reduction of the total number was

the restriction of the range, due to local extermination. The continued abundance of the bison within the narrower range gave rise to an erroneous belief that the animals withdrew into the wilderness as the frontier of settlement advanced. In British territory, the eastern limits of the bison's range began to recede early in the nineteenth century and continued until there were only two small areas, one in the Peace River Valley and one between the two branches of the Saskatchewan River, where bison were found in 1885. In the former area, the subspecies known as the wood bison still survives; but the typical subspecies, the bison of the plains, was exterminated in British territory about 1889, when a band of eleven animals, the last representatives of uncountable multitudes, was slaughtered by Indians.²

Within the area where the bison was found travellers were almost entirely relieved of the necessity of carrying any food with them; for the abundance of the animal made it possible to secure by hunting a fresh supply of food for each day or even for each meal. When transporting goods for trade, or the furs which they had secured, the European traders wished to avoid even brief delays; and their journeys took them beyond the range of the bison and through localities which the animals abandoned at certain seasons. The fur traders therefore made further adoptions from the Indian ways and used durable provisions made from the bison, killing large numbers of these animals for food.

Besides the slaughter of single animals, bison were secured in large numbers by three methods of hunting. The first of these, the one most used in the region covered by this paper, was called "buffalo running." A group of mounted hunters approached a herd of bison at a slow pace until their prey became alarmed, when the pace was increased to the extreme speed of the horses and each hunter singled out and killed successively as many animals as he could overtake. The wild and picturesque scenes arising in "buffalo running," the skill of the hunters in handling their weapons, (bows or guns,) while their horses were galloping at top speed, the intelligence of the horses in bringing the hunters to a favorable position for a shot and in avoiding the charges of wounded or angry

bison, and the frequent accidents to horses and riders, have all been the subject of many vivid descriptions by eye-witnesses and by many later writers. A second hunting method was called "the surround." Instead of pursuing a herd, as in "buffalo running," the mounted hunters rode around a herd in an ever-narrowing spiral, shooting down the animals until all were killed or until the remnant broke through the cordon and escaped. The third method was called "impounding." Here a herd of bison was driven into an enclosure and there slaughtered. Sometimes the herd was enticed into the enclosure by a decoy, usually a hunter wearing the skin of a bison calf and imitating its voice and actions. A method called "still-hunting," by which the grazing animals were shot down one by one by a concealed hunter, was much used in the U.S.A. in the seventies and eighties, when hides rather than flesh were the objects of the hunt; but this method, which depended for its success on accurate fire-arms, was little used in the British North-West.

The product of these extensive hunts, in which hundreds of animals would be killed in a single day, could not be consumed while it was fresh. Much of it was wasted, but great quantities of preserved meat were made from it. The most important form of prepared meat is called pemmican. This word, which appears in many variations of spelling in the literature of the West and North-West, is the Cree name of this provision. It signifies, literally, "made with fat," being the Cree word "pimi," fat, and "-can," a Cree suffix denoting something made.³ Pemmican was made by cutting lean meat into thin, broad slices; drying it over fires or in the sun for about two days; then pounding it into a flaky or fibrous mass and mixing it with about four-fifths of its own weight, or sometimes with an equal weight, of fat which had been melted and was still soft; and finally packing it for storage and transportation in *taureaux*, bags of hide with the hair still on the outside⁴ each containing about ninety pounds. This food, originally always of Indian manufacture, but afterwards also made by Europeans, could be made from the flesh and fat of any animal; but in the North-West it was usually made from the bison; and in the following pages the word will

be applied only to the product of this animal. Some was made of selected parts of the animal, and to some was added dried wild fruits, to the improvement of its taste. Concerning the taste, opinions vary widely, the extremes being that it was "very palatable" and that "*le goût . . . était exactement celui de la bonne chandelle de suif.*"⁵ The former opinion is discredited by the existence of a regulation of the Hudson's Bay Company forbidding its *voyageurs* from exchanging pemmican for fresh game from the Indians, on the grounds that the expenditure of pemmican would thereby be increased.⁶ From personal experience, the present writer believes that the best possible description of the taste of pemmican is the following: "If any person should feel inclined to ask, 'What does pemmican taste like?' I can only reply, 'Like pemmican,' there is nothing else in the world that bears to it the slightest resemblance . . . (It) can be eaten, provided the appetite be sharp and there is nothing else to be had."⁷ Concerning the nutritious qualities of pemmican there is unanimity of opinion. It is equal to three or four times its weight of fresh meat. This high food value in relation to its weight, with its small bulk in relation to its weight, its almost imperishable nature, and its convenience of being edible without cooking, made pemmican an ideal provision for use on canoe voyages.⁸ Slices of dried meat, "beat meat," (or dried meat which had been pounded,) and "grease," (or rendered fat,) were stored and used separately, as well as being used in the making of pemmican.

The *taureaux* of pemmican were made to weigh about ninety pounds each, for convenience in handling. Portages were frequently necessary on the routes followed by the traders; and it was found that ninety pounds was the most convenient weight in which to parcel the cargo, as it was about the heaviest weight which the average *voyageur* could lift to his own back at a portage. Not only the *taureau* of pemmican, but also the "piece" of merchandise, the "pack" of furs, the "bale" of dried meat, and the "keg" of grease each weighed about ninety pounds. One "piece" did not constitute a full load for a man on a portage, however. With the aid of a "tump line," a band passing across the forehead and around

the load, the *voyageurs* carried at least two "pieces" on their backs; and there is a record of one man carrying seven "pieces," or more than six hundred pounds, at one trip.

As already mentioned, the *coureurs de bois* made use of the food products of the bison from the time when they first began to penetrate into the North-West. The use of these compact provisions made it possible for them to carry into the country the European goods which were in demand by the Indians and to carry out the furs which they secured in exchange for these goods. It is doubtful, however, whether the French traders organized the supply of this food. After the British conquest of Canada, the Indian trade was largely taken over by British subjects, who adopted the methods of their French predecessors, and, indeed, employed French *voyageurs* to man their canoes. They, too, experienced the difficulties of transportation, and made use of the same compact provisions which the French had adopted from the Indians.⁹ The use of a preparation of maize and "grease" was said to be one of the reasons why the English traders employed French *voyageurs*—others could perhaps be taught to manage the canoes but no others would tolerate the fare.¹⁰ At the posts on the prairies which these traders established or took over from the French, the flesh of the bison was commonly used for food; but the contrast between the plenty at one post and the scarcity at another not far away shows that there was still no organization for collecting provisions.¹¹

The many disadvantages which arose from competition in the trade with the Indians became so apparent that in 1782 and 1783 some of those engaged in the trade in furs between the North-West and Canada formed a combination called the North-West Company. Other combinations, including the X Y Company, acted in opposition for a time; but after 1804 the North-West Company included practically or actually all engaged in the fur trade between Canada and the North-West. One of the advantages of this combination was that it increased the scale of operations and thereby made possible a more efficient organization of the transportation of goods and furs into and out of the North-West. An essential part of this

organization was the establishment of posts within the range of the bison for the chief purpose, and in some cases for the sole purpose, of procuring food from the bison herds.¹²

It seems impossible to determine accurately the amount of the food products of the bison consumed at any period; but some figures exist for particular seasons and districts which indicate the importance of this resource. The returns for the "Lower Red River Department" of the North-West Company for the seasons from 1800-01 to 1807-08, inclusive, show that during this period the North-West Company procured 1,125 *taureaux* of pemmican, and about 10 tons of grease, beat meat, tongues, and humps, or a total of about 61 tons of all kinds of bison products in this district for the use of the canoemen elsewhere.¹³ At the same time, the North-West Company was obtaining from 300 to 500 bags of pemmican and 200 or more kegs of grease from the Saskatchewan district each year;¹⁴ which would give an additional supply of at least 200 tons for the eight years under consideration. The Hudson's Bay Company and, during part of this time, the X Y Company also made use of the food products of the bison. Many of the posts of all three companies were provisioned with fish, caught locally, and game other than bison was also consumed; but at the posts within the bison's range this animal was the chief source of food, and the amounts consumed where secured are additional to the amounts given above as shipped from the Lower Red River and Saskatchewan districts for use elsewhere. To obtain an idea of the amounts used at the hunting posts, a particular and local instance must again be taken as probably typical. At "Pambian River" post of the North-West Company, seventeen men, ten woman, and fourteen children, with forty-five dogs, between September 1, 1807, and June 1, 1808, consumed 147 bison, weighing in all 63,000 pounds, plus 410 pounds of grease and 140 pounds of beat meat, (both products of the bison,) besides a quantity of other game and of vegetables.¹⁵ The daily ration of the French Canadian *voyageur* at this time was eight pounds of fresh meat or a pound and a half of pemmican.¹⁶

To relate the consumption of the food products of the

bison with the whole fur trade of the North-West, it is also necessary to take particular but apparently typical instances. About 1798, the North-West Company employed 1,276 men, of whom 355 were "Pork-eaters or Goers and Comers" employed in the work of transportation between Montreal and Fort William or Grand Portage, and the rest were employed in transportation or at the trading posts in the North-West.¹⁷ Between Montreal and the head of Lake Superior, biscuits, pease, and pork were used to provision the transport brigades; between Lake Superior and Lake Winnipeg, Indian corn and wild rice were the staples, but with both these bison grease was used; and beyond Lake Winnipeg, pemmican was the staple voyaging provision.¹⁸ In 1805, the North-West Company's "outfit," the goods which were to be exchanged for furs and the equipment of the fur traders, transported into the North-West from the head of Lake Superior, consisted of 3,290½ "pieces" of merchandise, or a total of about 148 tons. This was loaded in 156 canoes; and 1,771 "pieces," or about 79 tons, of provisions, including Indian corn, were used by the crews of these canoes.¹⁹ In 1808, each canoe of a brigade of eleven from Fort William to Fort Vermillion, a trip of two months duration, carried twenty-eight "pieces," (about 2,500 pounds,) of merchandise; and each was manned by five men and one woman who consumed six bags of pemmican and twenty-five pounds of grease, with a quantity of corn and rice.²⁰ Some of the brigades from Fort William, bound for more distant posts, used three or four additional bags of pemmican for each canoe; and hunters attached to the brigades supplemented these provisions with fresh game, especially when in the range of the bison.²¹ The prepared provisions were obtained by the brigades at depots along the lines of communication, where the products of the bison hunt were prepared or to which they were transported from the posts in the heart of the bison's range.²²

Not only was more pemmican consumed on the longer canoe voyages than on the shorter ones, but the compact and durable nature of pemmican was more important to the brigades for the more distant posts. On these longer journeys, a more bulky form of provisions would have left no room for

cargo, and dependence on fresh game secured en route would have prolonged the trip into another season. And it was from the more remote districts, and especially from the Peace River and Athabasca River districts, that the most valuable furs were obtained. The amount of pemmican consumed does not indicate fully the value of this food to the traders; for it was of the greatest utility in the most essential parts of their enterprise.

The cost of the provisions is also indicated by figures for particular times and places, which may be taken as typical. The North-West Company, at the beginning of the nineteenth century, considered that the purchase of spirits and expenses of transportation, including wages and provisions expended on the voyages, amounted to half its total outlay.²³ Part of the spirits was used in the purchase by barter of the food products of the bison.²⁴ Somewhat more definite is the statement of the rates at which the provisions from one department were credited to it in the books of the North-West Company. The "Lower Red River Outfit" for 1801 values the provisions sent to the depots from this department for the year at £473 12s, Halifax currency, pemmican, grease, and "beef," i.e., bison meat, all being reckoned at one shilling per pound, delivered at the depot on Lake Winnipeg.²⁵ There is no indication of how this rate of one shilling per pound was determined. It seems to have been fixed arbitrarily for convenience in book-keeping, and it far exceeds the rate at which these products were purchased in later years. The hunters attached to a post on the "Panbian River"—i.e., the Pembina River—during the season of 1807-08 received a "royalty" of 4s 1½d on each bison and deer killed for the supply of fresh meat to the post, plus an allowance of spirits.²⁶ As the hunters received no royalty for bears, wild fowl, and other game, it is probable that they received a wage as well as their royalties. Whether or not they received royalties for the bison used in making pemmican does not appear. If bison could be procured for about four shillings each, the value of one shilling per pound for the food products seems excessive; for the animals yielded an average of about 400 pounds of fresh meat each, or at least fifty-five pounds of pemmican and

forty-five pounds of dried meat.²⁷ At the rate of one shilling per pound, this gives a value of £5 for the food products of each bison; and the margin of £4 15s or £4 16s on the products of each animal must exceed the cost of making up the pemmican and transporting it to the depot. The effect of this apparent over-valuation of the food would be to show a profit on the work of supplying it to the transport brigades and an increased cost of transporting the goods and furs; and in view of the high cost, or even the physical impossibility, of obtaining food from other sources, the North-West Company seems justified in crediting part of its total profits to the work of gathering food.

The skins of the bison were in slight demand at this time; and the "Lower Red River Outfit" for 1801 shows only "10 Buffalo robes at 18s . . . £9," among the return of furs from this district for one year, which totalled 103 "packs" valued at £4,292 3s 1d, Halifax currency.²⁸ During the eight years from 1800-01 to 1807-08, inclusive, this district exported only 214 bison robes,²⁹ though, as shown above, it exported large quantities of pemmican. Some of the skins of the bison killed for food were used in making the *taureaux* in which the pemmican was packed; and a smaller number were used in making the "Red River carts" and "bull-boats" used in the transportation of provisions and furs. Revenue from bison robes was evidently only a slight offset to the expense of collecting provisions.

The combination of Canadian fur traders mentioned above did not extinguish competition; for the North-West Company had a powerful rival in the Hudson's Bay Company, which claimed monopoly of trade, ownership of the soil, and rights of legislation and jurisdiction over the whole Hudson's Bay drainage basin, including most of the North-West, under a Royal charter of 1670. For many years this company traded chiefly with those Indians who visited its posts on the shores of Hudson's Bay; but as early as 1691, its servants penetrated as far as the bison area on a trading-exploring expedition, and made use of the bison as food.³⁰ Dried bison tongues purchased from the Indians who prepared them and transported them from the animal's range to the shores of Hudson's

Bay, were consumed as delicacies at the Hudson's Bay Company's forts before this company was regularly established in the bison area.³¹ In 1774, it established its first permanent inland post, Cumberland House; and in 1793, it extended its regular operations to the Red River Valley. These and further extensions of the Hudson's Bay Company's operations brought it into direct competition with the North-West Company; but for some time this competition was tempered by friendly feeling between the employees of the two companies, and there is evidence of mutual help in matters of defence, and of transportation, and in the supply of the food products of the bison.³² The Hudson's Bay Company made the same use of the bison as a source of food as did the North-West company; and this use of the bison assumed great importance in the conflict which arose between the two companies, following the introduction of settlers into the Red River valley by the Hudson's Bay Company in 1812.

This conflict, with its unhappy results for the Selkirk settlers, has been called the "Pemmican War." Both parties to the dispute admitted that few or no furs were procured in the area of the proposed settlement and both agreed that the conflict was over the supply of pemmican.³³ The North-West Company was sure that the purpose of the Hudson's Bay Company in establishing the colony was to ruin a rival by cutting off its supplies of provisions.³⁴ On the other hand, the Hudson's Bay Company's official motives for fostering settlement were to secure a supply of agricultural produce for provisioning the fur trade, and to secure a revenue as landlord in addition to its revenue as a fur trader;³⁵ and this company declared that the North-West Company was planning to force the abandonment of the colony by depriving it of its supply of pemmican, on which the settlers were dependent until they could make some advances in agriculture.³⁶ On January 8, 1814, Miles McDonnell, governor of the settlement, issued a proclamation under authority derived from the Hudson's Bay Company's charter, forbidding the export of provisions, including pemmican, from the territory of the colony, except under license from him.³⁷ The North-West Company asserted that this territory included the main source of

its supply of pemmican, but not the main source of the Hudson's Bay Company's supply;³⁸ and naval successes of the U.S.A. on the Great Lakes had increased the dependence of the former company on the bison, by interrupting their communications with Canada.³⁹ The North-West Company became more alarmed; hostility between it and the Hudson's Bay Company became more violent; blood was shed on both sides; the settlement was twice destroyed; and the conflict ended only with the amalgamation of the two fur trading companies, under the name of the older one, the Hudson's Bay Company, in 1822.

This amalgamation made possible a still more efficient organization and many economies. The combined staff was reduced; and the North-West Company's transportation route through the Great Lakes was practically abandoned in favour of the Hudson's Bay Company's route via York Factory on Hudson's Bay, and some posts were consequently reduced in importance or actually closed. Cultivation around some of the trading posts, which had been carried on to some extent previously, was increased, to lessen the dependence on local supplies of game and fish; and increasing quantities of cultivated provisions were purchased from this time in the Red River Settlement.⁴⁰ In spite of this, however, pemmican continued to be the staple food of the men engaged in transporting goods and furs.⁴¹

The Minutes of the Hudson's Bay Company's Council of the Northern Department of Rupert's Land between 1830 and 1843,⁴² and a requisition for Norway House for 1845,⁴³ afford evidence of the amounts and values of the food products of the bison for some years in some districts, and indicate the continued importance of these products during the period following the amalgamation of the two fur trading companies. The amounts of these provisions varied from year to year, but the average yearly amount increased. Taking, as before, a particular date and place as apparently typical, the dried meat and pemmican ordered for the depots at Norway House, Cumberland House, and English River in 1841 totalled 1,185 "pieces," or about 23 tons, of which 450 "pieces" came from the Red River district, 80 "pieces" from the

English River district, and 655 "pieces" from the Saskatchewan districts.⁴⁴ The figures do not show the whole quantity of these provisions consumed in this year; for large quantities of fresh and prepared bison meat continued to be consumed at the posts within the range of this animal.⁴⁵ Four years earlier, the regular staff of the Hudson's Bay Company numbered over 1,500; but the proportion of these who were stationed in the Northern Department of Rupert's Land, the North-West, where pemmican was chiefly used, does not appear, and an uncertain number of occasional labourers, engaged chiefly in transportation and therefore consuming pemmican, must be added.⁴⁶ In the year of the example given above, (1841,) about 1,836 "pieces" of merchandise, or about 82 tons, were transported from York Factory to Norway House and thence to the various posts throughout the North-West for the trade of one year;⁴⁷ but the quantities of furs transported during this year are not given.

There are several indications of the cost of these provisions for the period following the amalgamation of the two companies. The first is the Hudson's Bay Company's "Standing rules and regulations XIII, No. 8,"⁴⁸ in force in 1836, valuing pemmican, pounded meat, and grease at 3d per pound, dried meat at 2d, and fresh meat at 1d. At the Red River Settlement, however, 2d per pound was the prevailing price for all the food products of the bison during these years.⁴⁹ During the three years, 1839, 1840, and 1841, the Company is said to have spent £5,000 in securing these provisions;⁵⁰ but the quantity purchased by this amount is uncertain. Spirits were still used at this time and for many years later in bartering for bison meat and pemmican.⁵¹ Repeated items in the Minutes of the Council for the Northern Department of Rupert's Land indicate that the demand for the skins of the bison was still insufficient to absorb the skins of the animals killed for food.⁵²

The first effect of the reduction of the numbers of the bison was the restriction of its range; its numbers within this restricted range being practically undiminished. For the fur trade, therefore, the effect of the diminishing numbers was to add to the labour of securing food from this source rather

than at first to reduce the quantity secured. The supplies were drawn from districts progressively more remote from the distributing depots; and the relative importance of the different provision posts changed as the range of the bison narrowed, the centre of importance moving, on the whole, westward and toward the international boundary. Thus in 1836 and 1837, Carlton House was the principal point at which the food products of the bison were secured and prepared;⁵³ but by 1859, it had taken a lower place than Edmonton in the quantities of pemmican supplied to the depots.⁵⁴ So far from the total supply being reduced, by 1856 or 1857 it had increased to between 100 and 150 tons a year.⁵⁵ The permanent staff of the Hudson's Bay Company in 1857 was still about 1,500; but during the summer, when the transport brigades were at work, nearly 3,000 men were employed.⁵⁶ Even as early as 1859, the supply at Edmonton was not always equal to the demand;⁵⁷ and a few years later both Edmonton and Carlton had experienced famines, and the chief point of supply was Fort Pitt.⁵⁸

Besides the supply obtained from the hunters in its employ at the "provision posts," the Company purchased large quantities of pemmican at Fort Garry. Besides the Selkirk settlers, there was a population of half-breeds in the Red River district, descendants of the French-Canadian and Scotch employees of the fur traders and their Indian wives. Hunting formed the principal support of these half-breeds, and especially of the French-Canadian half-breeds; and their "buffalo hunts," organized like the hunts and war-parties of their Indian ancestors, were unique and interesting features of North-West life. About the middle of each June the hunt assembled at Pembina, and selected a "general," "officers," and "soldiers," who enforced the *lois de la chasse* under which the hunt was conducted. Under these laws, the general was given authority over the movements of the hunt, independent hunting of bison was prohibited, rules were laid down for pitching and striking camp, behaviour on the march, etc., and a return to the settlement during the progress of the hunt was forbidden. The hunters were accompanied by their wives and families, who made the pemmican from the animals killed by the men; and

transportation was provided by "Red River carts," in which thongs of bison hide replaced all metal, even for the tires of the cart-wheels. In the hunt of 1820 there were 540 of these carts; but 1,210 carts were needed to carry the 620 hunters, 650 women, and 360 children who took part in the hunt of 1840.⁵⁰ The actual slaughter was accomplished by "buffalo running," already described, and hundreds of animals would be killed in a single day and many thousands during each season. As a result, the Red River hunters were forced to go farther and farther from the settlement to find the bison herds. In 1823, they did not go far beyond Pembina before meeting numerous herds;⁵¹ in 1840, the first herds were found two hundred and fifty miles beyond that place;⁵¹ and by 1870, the hunters had to travel some three hundred miles to secure the necessary quantity of meat.⁵² The quantities secured by this hunt increased for many years, owing to the increasing scale upon which the hunt was conducted, the yield in 1823 being about 45 tons and in 1849 about 500 tons.⁵³ Only part of this supply was used in the fur trade, part being consumed in the settlement.⁵⁴

The increasing difficulty of supply and perhaps a growth of demand is reflected in rising prices after about 1855. In 1857 the price of pemmican at Fort Garry had lately increased from 2d to 2½d per pound, and the price of grease from 2d to 3d per pound.⁵⁵ A further advance had taken place by 1865, when pemmican was 4d per pound, dried meat, 2½d, and grease, 6d.⁵⁶ After this the advance in price and the decline in supply was very rapid. By about 1868, pemmican had reached 1s per pound and dried meat 8d;⁵⁷ and about 1870 the regular supply of pemmican at Fort Garry seems to have ceased.⁵⁸ As late as 1883, a little freshly made pemmican was sold in Winnipeg at 15 cents per pound; but by this time the Hudson's Bay Company's former provision posts contained no pemmican, and the bison was practically extinct within the Company's sphere of operations.⁵⁹

It must be noted in passing that pemmican has again come on the market. During the past few years, a small quantity has been made from the surplus bison from the Canadian National Parks. It is sold at about 50 cents per pound, and

may be obtained through the Commissioner of Canadian National Parks, Ottawa. The daily press reported that Amundsen carried pemmican, obtained from this source, as part of the provisions for his recent flight to the Pole.

After the amalgamation of the North-West Company and the Hudson's Bay Company, the latter company, though now including the opponents of settlement, continued to profess itself in favour of the settlement in the Red River valley; and, indeed, it did much to help the settlers. But its interest in settlement had been due to the control in its affairs which Lord Selkirk had acquired in order to forward his philanthropic plans; and even before the amalgamation, after Lord Selkirk's death in 1820, the Hudson's Bay Company ceased to assist immigrants to the Red River settlement. The settlers soon began to feel that the Company's interests and theirs were opposed; and they accused the Company of preventing them from finding outside markets for their products and in other ways hindering the development of the colony.

As proposals began to be made for an extension of settlement and for the encouragement of immigration into the North-West, the officials of the Hudson's Bay Company insisted that the area was not fit for settlement because of climate or conditions of the soil; and sometimes they involved themselves or each other in curious contradictions in stating the obstacles to settlement.⁷⁰ The Company's opposition took more definite form as the proposals for the extension of settlement became more definite; and it was soon frankly based on the supposed necessity of the supply of pemmican to permit the continued existence of the fur trade and on the evident impossibility of perpetuating the supply of pemmican if the range of the bison were to be cultivated.⁷¹ The Hudson's Bay Company had now completely reversed its official attitude towards the settlement of the North-West, and its position was now similar to that of the North-West Company in the early days of the Red River colony. There is a striking parallel between the objection of Governor Berens, of the Hudson's Bay Company, to the proposed extension of settlement in 1862 and the objection of Sir Alexander Mackenzie, of the North-West Company, to the proposed settle-

ment in 1812; the former exclaimed, "What! sequester our very tap root. Take away the fertile lands where our buffaloes feed!"⁷² and the latter said that "such settlements struck at the root of the North-West Company."⁷³ In both cases, those interested in promoting settlement overcame the opposition by purchasing an interest in the fur trade and a share in its control. It is significant that the proprietors of the Hudson's Bay Company did not sell this interest until the bison herds were seriously depleted, not by settlement, but by the slaughter of the animals to provide food for the fur traders.

Since the records of the Hudson's Bay Company are not fully available, the details of substituting other provisions for the bison products are not certainly known. No doubt the area under cultivation around the posts was increased; the quantities of flour and pork and other agricultural produce purchased in the Red River colony probably increased more rapidly as the bison decreased than it did while the bison remained abundant; the spread of cattle ranching over the former range of the bison suggests the use of domestic beef to replace bison beef; and the tins of meat, fish, and vegetables from the canneries of Ontario and British Columbia, which are now to be found at even the most remote fur-trading posts on Hudson's Bay and the Mackenzie River, replace the *taureaux* of pemmican. Improved means of communication, especially the railways and steamships, which have reduced the length of the canoe voyages; the spread of settlement and cultivation, which has brought the base of supplies nearer to the fur regions; and new methods of preserving foods; all these factors have combined to make this substitution possible in 1870, though it would have been impossible in 1770. The continued importance of the fur trade to-day disproves the prophecy, freely made as late as 1862,⁷⁴ that the extermination of the bison as a source of food would extinguish the fur trade.

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